

PATENT ABSTRACTS OF JAPAN

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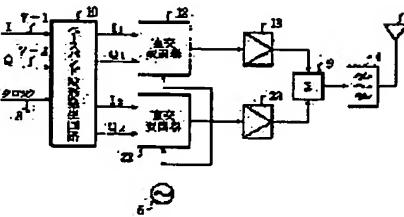
(21)Application number : 06-301946 (71)Applicant : NEC CORP
 (22)Date of filing : 06.12.1994 (72)Inventor : ICHIHARA MASAKI

(54) TRANSMISSION CIRCUIT

(57)Abstract:

PURPOSE: To generate a transmission modulated wave with amplitude fluctuation by using a nonlinear and highly efficient power amplifier.

CONSTITUTION: A baseband wave generator outputs the following signals $I1=[I+Q.\text{SQRT}(4/a2-1)]$, $Q1=[Q-I.\text{SQRT}(4/a2-1)]$, $I2=[I-Q.\text{SQRT}(4/a2-1)]$ and $Q2=[Q+I.\text{SQRT}(4/a2-1)]$ (where, $a2=I2+Q2$) calculated from the I, Q components of the transmission modulated wave. In these equations, $\text{SQRT}(x)$ represents the square root of (x) . The common-mode component input of a quadrature modulator 12 is assumed as $I1$, quadrature component input as $Q1$, the common-mode component input of a quadrature modulator 22 as $I2$, and the quadrature component input as $Q2$. Both the output of the quadrature modulators 12, 22 are constant envelope modulated waves, and they can easily be poweramplified by nonlinear and highly efficient transmission amplifiers 13, 23. The transmission modulated waves provided with the common-mode component I and the quadrature component Q for a carrier can be obtained by synthesizing the output of the transmission power amplifiers 13, 23 by a power synthesizer 9.



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